

(b) forming a heat carrying medium vapor by direct or indirect contact between the first heat carrying medium and the heat source;

(c) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature rising unit that includes a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

DI (d) applying a first pressure to the heat temperature raising medium;

(e) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure;

(f) transferring heat via the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, whereby the temperature of the second heat carrying medium is higher than the temperature of the first heat carrying medium; and

(g) transferring the latent heat of the vapor of the second heat carrying medium to the heat sink.

54. A method for transferring heat from a heat source to a heat sink where the temperature of the heat sink is higher than the temperature of the heat source, comprising the steps of:

(a) providing a first heat carrying medium;

(b) forming a heat carrying medium vapor by direct or indirect contact between the first heat carrying medium and the heat source, whereby the temperature of the heat exchange is above the melting point of the material of the heat source;

(c) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature rising unit that includes a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

(d) applying a first pressure to the heat temperature raising medium;

(e) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure;

(f) transferring heat via the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, whereby the temperature of the second heat carrying medium is higher than the temperature of the first heat carrying medium; and

(g) transferring the latent heat of the vapor of the second heat carrying medium to the heat sink.

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55. A method for transferring heat from a heat source to a heat sink where the temperature of the heat sink is higher than the temperature of the heat source, comprising the steps of:

(a) providing a first heat carrying medium;

(b) forming a heat carrying medium vapor by direct or indirect contact method between the first heat carrying medium and the heat source;

(c) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature rising unit that includes a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

(d) applying a first pressure to the heat temperature raising medium;

(e) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure;

(f) transferring heat via the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, whereby the temperature of the second heat carrying medium is higher than the temperature of the first heat carrying medium; and

(g) transferring the latent heat of the vapor of the second heat carrying medium to the heat sink.

56. The method as claimed in Claim 53, 54 or 55, wherein the heat temperature raising medium is selected from the group consisting of an organic or inorganic chemical, and

mixtures thereof, either in a pure form or in a compound with a melting point range between  $-30^{\circ}\text{C}$  and  $100^{\circ}\text{C}$ , with the proviso that when the heat temperature raising medium is selected from a mixture of compounds, the mixture has a eutectic point range between  $-30^{\circ}\text{C}$  and  $100^{\circ}\text{C}$ .

D1 57. The method as claimed in Claim 53, 54 or 55 wherein the step of transferring heat from a heat source via a first heat carrying medium to a heat sink comprises a multiple units of heat temperature raisers to elevate temperature of the heat carrying medium by multiple steps.

58. The method as claimed in Claim 53, 54 or 55, wherein said method is used in air-conditioning distillative freezing, ice making, cable water purification, waste water treatment, desalination, distillation operation under ambient temperature or high temperature, organic chemical purification and separation, or in any other process requiring the use of raising the temperature from a lower temperature heat source to a high temperature heat sink.

59. The method as claimed in Claim 54, wherein said method is used in air-conditioning, cable water purification, waste water treatment, desalination, distillation operation under ambient temperature or high temperature, organic chemical purification and separation, or in any other process requiring the use of raising the temperature from a lower temperature heat source to a high temperature heat sink where the temperature of the heat source is above the melting point of the material of the heat source.

60. The method as claimed in Claim 55, wherein the heat of the second vapor is at least partially released to the heat sink, whereby the material of the heat sink is selected from the group consisting of air, cool water, salt water and water evaporation.

61. The method as claimed in Claim 53, 54, 55, 56, 57, 58, 59 or 60, wherein heat conductive fins are positioned within the tube, the conduits of said multiple tube assembly, the tubes of said multiple connected tubes, or the voids of said multi-void block of the heat temperature rising unit.

62. A heat temperature raising unit comprising:  
a heat conductive and pressure sustaining conduits containing a heat temperature rising medium that absorbs heat a low temperatures and releases heat at high temperatures,  
a header, the conduits connected to a header, and  
a means within said header for pressurizing and depressurizing the heat temperature rising medium.

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63. An apparatus for transferring heat from a heat source to a heat sink comprising:  
a heat source and a heat sink, wherein the heat sink is higher than the temperature of the heat source;  
a flash cooling zone containing a feed liquid next connected to the heat source, heat transferred from the heat source to the feed liquid in the flash cooling zone;  
a heat temperature riser comprising a heat conductive and pressure sustaining conduit containing a heat temperature rising medium that absorbs heat a low temperatures and releases heat at high temperatures, a header, and a means within said header for pressurizing and depressurizing the heat temperature rising medium wherein the conduit connected to a header;  
a heat temperature rising zone containing the heat temperature riser;  
a direct contact condensation zone connected to the heat sink to transfer heat to the heat sink;  
a first automatic valve between the flash cooling zone and the heat temperature rising zone and a second automatic valve between the heat temperature rising zone and the direct contact condensation zone;  
whereby a first heat carrying medium vapor formed from the feed liquid in the flash cooling zone is passes through the first automatic value into the heat temperature rising zone where there is a heat exchange between the first heat carrying medium vapor and the heat temperature riser to create a second heat carrying vapor formed as the result of heat being transferred via the latent heat of fusion from the heat temperature raising medium in the heat temperature riser unit, whereby the temperature of the second heat carrying medium is higher than the temperature of the first heat carrying medium, the second heat carrying vapor passes